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10/596,544	06/16/2006	Nityalendra Singh	GJE006-US	7779
24222	7590	09/30/2009		
Vern Maine & Associates 100 MAIN STREET P O BOX 3445 NASHUA, NH 03061-3445			EXAMINER NUCKOLS, TIFFANY Z	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 09/30/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@vernmaine.com  
dstengel@vernmaine.com

# Office Action Summary

**Application No.**

10/596,544

**Applicant(s)**

SINGH ET AL.

**Examiner**

TIFFANY NUCKOLS

**Art Unit**

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) 8-21 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election without traverse of Species I in the reply filed on 07/27/09 is acknowledged.
2. Claims 8-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 07/27/09.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

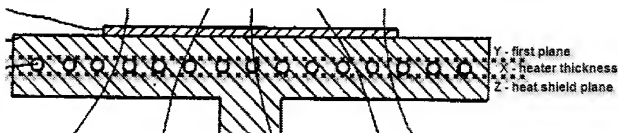
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1, 3, 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5766364 to Ishida et al in view of U.S. Patent No. 6538872 to Wang et al and U.S. Patent No. 6189482 to Zhao et al.**
6. In regards to Claims 1 and 4, Ishida et al teach a plasma processing apparatus (See *Ishida et al*, Fig. 1) comprising: a chamber (See *Ishida et al*, 1 Fig. 1) within which

a substrate (*See Ishida et al, 2 Fig. 1*) is processed in use (*See Ishida et al, Col. 2, line 22*); a first electrode (*See Ishida et al, 4 Fig. 1*) formed from an alloy (*See Ishida et al, Col. 3, line 13*) having substantially planar upper and lower surfaces (*See Ishida et al, see planarity of 4 Fig. 1*), wherein the substrate is placed for processing upon the upper surface of the first electrode (*See Ishida et al, Col. 3, lines 16 and 2 on 4 Fig. 1*); a second electrode (*See Ishida et al, 105 Fig. 1*); a heater (*See Ishida et al, 3 Fig. 1*) for heating at least the first electrode (*See Ishida et al, implicit by heating the substrate through intimate contact, Col. 3, line 17*) to a processing temperature (*See Ishida et al, Col. 3, line 17*); and a power supply system (*See Ishida et al, 8 Fig. 1*) arranged to cause an electrical discharge between the said first and second electrodes so as to produce the plasma (*See Ishida et al, implicit as it is a plasma processing apparatus, Col. 1 lines 66-67, Col. 2, lines 1-2, 20-26*) in the chamber from one or more gases (*See Ishida et al, Col. 4, lines 2-6*) supplied to the chamber, characterized in that: the heater (*See Ishida et al, 3*) comprises one or more heating members (*See Ishida et al, plurality of 3 Fig. 1*) arranged in a substantially planar manner (*See Ishida et al, see position of members 3 Fig. 1*), the heater and electrode forming an assembly (*See Ishida et al, unified pedestal of 3 and 4 Fig. 1*) such that the parts of the one or more heating members that are closest (*See Ishida et al, upper ends of heating members 3 Fig. 1*) to the said upper surface (*See Ishida et al, surface where substrate 2 is positioned Fig. 1*) of the first electrode (*See Ishida et al, 4 Fig. 1*), define a first plane (*implicit, since members 3 are in planar position*) that is separated from the upper surface by a distance Y (*See Ishida et al, see distance between upper ends of heating elements 3 to*

upper surface of electrode 4 Fig. 1), the parts of the one or more heating members that are furthest (See *Ishida et al*, lower ends of heating members 3 Fig. 1) from the said upper surface (See *Ishida et al*, surface where substrate 2 is positioned Fig. 1) of the first electrode, define a second plane (See *Ishida et al*, implicit, since members 3 are in planar position Fig. 1), wherein the separation of the first and second planes defines a heater thickness X (See *Ishida et al*, thickness of elements 3 Fig. 1). *Ishida et al* teach a second plane is positioned at the bottom of the assembly, i.e., a heat shield, as illustrated in the following annotated copy of Fig. 1 of *Ishida et al*, the planes therein being implicit as shown by the dotted lines:



7. *Ishida et al* do not teach the first electrode is made from a nickel alloy.
8. *Wang et al* teach an electrode (See *Wang et al*, 105 Fig. 1) made from nickel or a nickel alloy (See *Wang et al*, Col. 12 line 64-Col. 13 line 2), nickel implicitly being a form of a nickel alloy that is pure, i.e., > 99% nickel by weight, as supported by Applicant's Specification, paragraph 0024.
9. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the first electrode in *Ishida et al* with the first electrode made from a nickel alloy as taught by *Wang et al*, as art-recognized equivalent means for an electrode. It has been held that

an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

10. Furthermore, it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See MPEP 2144.07. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

11. Ishida et al in view of Wang et al do not expressly teach wherein Y lies in the range 1.2X to 3X.

12. Zhao et al teach an electrode that rests above a heater (*See Zhao et al*, 103 Fig. 7A) with a thickness of 3-15 mm (*See Zhao et al*, Col. 19 lines 45-55), forming a first plane above said heater, said heater (*See Zhao et al*, 107 Fig. 7A) having a thickness of 5 mm (*See Zhao et al*, Col. 20 lines 32-36). The ratio of the thickness of the electrode to the heater, i.e., the ratio of Y to X is encompasses the range of 1.2X-3X.

13. Ishida et al in view of Wang et al disclose the claimed invention except for the range of thicknesses of the electrode in relation to the heater. Zhao teaches a thickness of the electrode plane (Y) above the heater and a heater thickness (X) that encompass the range as recited in the claims.

14. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the unknown planar *thicknesses* of the electrode and heater in Ishida et al with the planar thicknesses of the electrode and heater as taught by Zhao et al, as art-recognized

equivalent dimensions in a substrate heater and electrode. It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

15. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the electrode 1.2X-3X, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. See MPEP 2144.05 II (A) and case law therein. The resulting apparatus fulfills the limitations of Claims 1 and 4.

16. In regards to Claim 3, Ishida et al teaches a plane below the heater, i.e., positioned at the bottom surface of the assembly, i.e., a heat shield, as supported by Applicant's Specification, paragraph 0023.

17. In regards to Claims 5 and 7, Ishida et al do not expressly teach the first electrode is adapted in use to be heated up to 700°C from ambient temperature within substantially one hour or less, preferably 45 minutes or less or that the heater comprises a tubular, rod-like, or foil heater.

18. Zhao et al teaches the heater is made of a sheet stock (*See Zhao et al, Col. 20 lines 51-64*), i.e., a foil heater, that is capable of heating from ambient temperature up to 700°C (*See Zhao et al, Col. 20 lines 38-40*) and thus implicitly heating the electrode to 700°C. Zhao et al further teach that the foil heater transfers heat more effectively to the substrate and minimizes heater element breakage and increases its lifetime.

19. It would have been obvious to one of ordinary skill of the art at the time of the invention to substitute the heating element in Ishida et al with the foil heating element in Zhao et al. One would be motivated to do so to heat the substrate more effectively and increase the lifetime of the heater. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the heater element in Ishida et al with the heater element as taught by Zhao et al, as art-recognized equivalent means for heating. It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

20. Ishida et al in view of Wang et al and Zhao et al do not expressly teach the first electrode is adapted in use to be heated up to 700°C from ambient temperature within substantially one hour or less, preferably 45 minutes or less.

21. However, it has been held that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). As the apparatus of Ishida et al in view of Wang et al and Zhao et al is substantially the same as the claimed apparatus, the apparatus of Ishida et al in view of Wang et al and Zhao et al would be capable of



fulfilling the limitations of the claim, there being no structural difference between the apparatus of Miyake and that of the claim. It has been held that language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of claim or claim limitation. *In re Hutchison*, 69 USPQ 138. See MPEP 2106-II.c. As the apparatus of Ishida et al in view of Wang et al and Zhao et al can heat the electrode to 700°C from ambient temperature, it would be capable of doing this within one hour or less, as there is no structural difference between the electrode of Ishida et al in view of Wang et al and Zhao et al and that in the claim.

22. In regards to Claim 6, Ishida et al in view of Wang et al and Zhao et al do not expressly teach the first electrode is adapted to cool in use from 700-400°C in less than 30 minutes.

23. However, it has been held that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). As the apparatus of Ishida et al in view of Wang et al and Zhao et al is substantially the same as the claimed apparatus, the apparatus of Ishida et al in view of Wang et al and Zhao et al would be capable of fulfilling the limitations of the claim, there being no structural difference between the

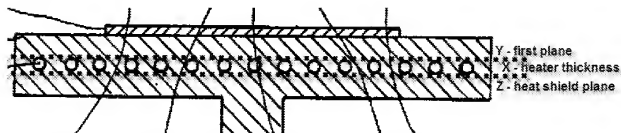
apparatus of Miyake and that of the claim. It has been held that language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of claim or claim limitation. *In re Hutchison*, 69 USPQ 138. See MPEP 2106-II.c. As the apparatus of Ishida et al in view of Wang et al and Zhao et al has no structural difference with that in the claim, and cooling implicitly occurs when the heating member is turned off, the apparatus of Ishida et al in view of Wang et al and Zhao et al would be capable of cooling, thus fulfilling the limitations of the claim.

**24. Claim 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5766364 to Ishida et al in view of U.S. Patent No. 6538872 to Wang et al, U.S. Patent No. 6043468 to Toya et al, and U.S. Patent No. 6660975 to Wang et al ('975).**

25. In regards to Claims 1-4, Ishida et al teach a plasma processing apparatus (See *Ishida et al*, Fig. 1) comprising: a chamber (See *Ishida et al*, 1 Fig. 1) within which a substrate (See *Ishida et al*, 2 Fig. 1) is processed in use (See *Ishida et al*, Col. 2, line 22); a first electrode (See *Ishida et al*, 4 Fig. 1) formed from an alloy (See *Ishida et al*, Col. 3, line 13) having substantially planar upper and lower surfaces (See *Ishida et al*, see planarity of 4 Fig. 1), wherein the substrate is placed for processing upon the upper surface of the first electrode (See *Ishida et al*, Col. 3, lines 16 and 2 on 4 Fig. 1); a second electrode (See *Ishida et al*, 105 Fig. 1); a heater (See *Ishida et al*, 3 Fig. 1) for heating at least the first electrode (See *Ishida et al*, implicit by heating the substrate through intimate contact, Col. 3, line 17) to a processing temperature (See *Ishida et al*,

*Col. 3, line 17*); and a power supply system (*See Ishida et al, 8 Fig. 1*) arranged to cause an electrical discharge between the said first and second electrodes so as to produce the plasma (*See Ishida et al, implicit as it is a plasma processing apparatus, Col. 1 lines 66-67, Col. 2, lines 1-2, 20-26*) in the chamber from one or more gases (*See Ishida et al, Col. 4, lines 2-6*) supplied to the chamber, characterized in that: the heater (*See Ishida et al, 3*) comprises one or more heating members (*See Ishida et al, plurality of 3 Fig. 1*) arranged in a substantially planar manner (*See Ishida et al, see position of members 3 Fig. 1*), the heater and electrode forming an assembly (*See Ishida et al, unified pedestal of 3 and 4 Fig. 1*) such that the parts of the one or more heating members that are closest (*See Ishida et al, upper ends of heating members 3 Fig. 1*) to the said upper surface (*See Ishida et al, surface where substrate 2 is positioned Fig. 1*) of the first electrode (*See Ishida et al, 4 Fig. 1*), define a first plane (*implicit, since members 3 are in planar position*) that is separated from the upper surface by a distance Y (*See Ishida et al, see distance between upper ends of heating elements 3 to upper surface of electrode 4 Fig. 1*), the parts of the one or more heating members that are furthest (*See Ishida et al, lower ends of heating members 3 Fig. 1*) from the said upper surface (*See Ishida et al, surface where substrate 2 is positioned Fig. 1*) of the first electrode, define a second plane (*See Ishida et al, implicit, since members 3 are in planar position Fig. 1*), wherein the separation of the first and second planes defines a heater thickness X (*See Ishida et al, thickness of elements 3 Fig. 1*). Ishida et al teaches a plane below the heater, i.e., positioned at the bottom surface of the assembly, i.e., a heat shield, as supported by Applicant's Specification, paragraph 0023 and as

illustrated in the following annotated copy of Fig. 1 of Ishida et al, the planes therein being implicit as shown by the dotted lines:



26. Ishida et al do not teach the first electrode is made from a nickel alloy.
27. Wang et al teach an electrode (*See Wang et al, 105 Fig. 1*) made from nickel or a nickel alloy (*See Wang et al, Col. 12 line 64-Col. 13 line 2*), nickel implicitly being a form of a nickel alloy that is pure, i.e., > 99% nickel by weight, as supported by Applicant's Specification, paragraph 0024.
28. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the first electrode in Ishida et al with the first electrode made from a nickel alloy as taught by Wang et al, as art-recognized equivalent means for an electrode. It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.
29. Furthermore, it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See MPEP 2144.07. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

30. Ishida et al in view of Wang et al do not expressly teach wherein Y lies in the range 1.2X to 3X.

31. Toya et al teaches a carbon heater (See *Toya et al*, Fig. 3) with a heating member (See *Toya et al*, 11 Fig. 3) with a 2mm thickness and with first (See *Toya et al*, t1 Fig. 3) and second (See *Toya et al*, t2 Fig. 3) planes that are equal in thickness to each other (See *Toya et al*, Col. 30 line 43-Col. 21 line 6).

32. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the unknown plane thicknesses in Ishida et al in view of Wang et al with the first and second plane thickness relationship as taught by Toya et al, as art-recognized equivalent means for providing a heating element, and its relative dimensions or thicknesses. It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

33. '975 teaches a flat wafer chuck (See '975, 50 Fig. 6) for a semiconductor wafer processing with a heater (See '975, 56 Fig. 6) that is a cable, i.e., tubular heater, with a 1/8" diameter, and alternatively, any other diameter or thickness as needed, and a total thickness of 1 inch (See '975, Col. 4 lines 17-57).

34. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the heater element structure in Ishida et al in view of Wang et al and Toya et al with the tubular heater as taught by '975, as art-recognized equivalent means for providing heat.

It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

35. It would have been obvious to one of ordinary skill in the art at the time of the invention, with a reasonable expectation of success, to alternatively substitute the unknown thicknesses for X and Z in Ishida et al in view of Wang et al and Toya et al with known thicknesses for X and Z as taught by '975, as art-recognized equivalent means for providing a heating element, and its relative dimensions or thicknesses. It has been held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). See MPEP 2144.06 II.

36. The resulting apparatus would have a heater element thickness X of 0.125 inches and a first plane thickness of 0.4375 inches, or  $3.5X$  and the thickness Z ( $X+Y+W$ ) equal to  $2.28Y$ . The thickness of Z as taught falls within the range of Z in claim 2 with sufficient specificity to fulfill the limitations of Claim 2.

37. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thickness of the first plane  $3X$  or  $1.2X-3X$ , since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. See MPEP 2144.05 II (A) and case law therein.

38. Furthermore, it would have been obvious to one having ordinary skill in the art the time the invention was made to make the dimensions fall within the ranges of Y and

Z as recited in Claims 1 and 2, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II (B).

39. Additionally, a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). MPEP 2144.04 IV (A). Thus, because the structure of the apparatus is disclosed in the prior art and the ranges and values of the dimensions recited in the claims also taught in the prior art, it would have been obvious to one of ordinary skill of the art at the time of the invention to change the dimensions as taught in the prior art, through routine experimentation and choices. The resulting apparatus fulfills all of the limitations of Claims 1-4 and 7.

40. In regards to Claims 5 and 6, Ishida et al in view of Wang et al, Toya et al, and '975 do not expressly teach that first electrode is adapted in used to be heated or cooled as recited in the claim.

41. However, it has been held that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*,

2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). As the apparatus of Ishida et al in view of Wang et al, Toya et al, and '975 is substantially the same as the claimed apparatus, the apparatus of Ishida et al in view of Wang et al, Toya et al, and '975 would be capable of fulfilling the limitations of the claim, there being a heating element therein and cooling as an implicit function of turning said heating element off, there being no structural difference between the apparatus of Ishida et al in view of Wang et al, Toya et al, and '975 and that of the claim.

### ***Response to Arguments***

42. Applicant's arguments filed 07/27/09 have been fully considered but they are not persuasive for the following reasons:

43. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., cleaning, plasma cleaning, resolving problems with plasma cleaning) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

44. In response to applicant's argument that does not address cleaning or the problems therein, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Furthermore, it has been held that claims directed to apparatus must be distinguished from the prior art in



terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

45. In response to the argument that the structure of Zhao et al does not correlated with the plane, it is noted that the structure is not being substituted, but rather the simple dimensions of the planes themselves. Furthermore, the additional rejections with Ishida et al in view of Wang et al, Toya et al, and '975 overcome this argument.

46. In response to the use of AlN versus nickel for the first electrode, it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See MPEP 2144.07. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

### **Conclusion**

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIFFANY NUCKOLS whose telephone number is (571)270-7377. The examiner can normally be reached on Monday through Friday 9:00AM - 5:30 PM.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

49. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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